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**Affordable warmth at home: what evidence basis for more effective working with older people in England and Wales?**

**Abstract**

**Purpose**

The purpose of this paper is to consolidate policy, research, evidence and good practice around strategies tackling fuel poverty and affordable warmth for older people aged over 60 to support the development of more effective services for this life course stage and to tackle physical and mental health inequalities.

**Design/methodology/approach**

We consolidate current policy, research, evidence and examples of good practice in exploring effective interprofessional approaches that contribute to affordable warmth for older people through ‘desktop analysis’. We support this with qualitative data from Health and Wellbeing Boards, health inequalities and environmental health from research comprising 4 longitudinal case studies in the Midlands and North of England over 18 months and semi structured interviews with members and support officers. A total of 50 interviews were undertaken and 55 hours of Health and Wellbeing Board meetings observed.

**Findings**

There are numerous older people living in fuel poverty. The depth of fuel poverty increases with age particularly the over 75s and physical and mental ill health are affected. There are an increasing number of tools to help estimate health care costs around the cost effectiveness of interventions and there is a real need for more local evidence about what is working well, how and why. However there is no mandatory requirement for fuel poverty strategies and more creative local strategies are required taking organisational and interprofessional relationships into account. The emphasis in integrated care provides new impetus and scope to encourage preventative services but these new partnerships need to be effective in what is a complex policy environment. There is still a long way to go in places. The challenges of ageing are numerous, complex and not fully understood and sit across multiple policy areas.

**Originality/value**

Fuel poverty strategies tend to be delivered on a geographical or income bases rather than by life course approach and a focus on older people. We need to focus more specifically on older people, a rapidly growing population and to better understand thermal properties of our ageing housing stock and how best to intervene to protect and improve health and safety. Emerging approaches need to overcome artificial statutory and non statutory divides and move toward sustainable, evidence based affordable warmth strategies for older people to protect and improve health.

**Key words**

Older people, affordable warmth, fuel poverty, cold homes, energy efficiency, housing and health

Paper type Technical paper

**Affordable warmth at home: what evidence basis for more effective working with older people in England and Wales?**

Housing, Care and Support

**Affordable warmth: what evidence basis for more effective working with older people at home in England and Wales?**

**Introduction: an ageing demographic and the need for affordable warmth**

One success of public health intervention is that life expectancy is rising globally (Rutherford, 2012; Salomon et al, 2013), and population ageing now presents an ‘unavoidable future’ (Coleman, 2001), with substantial and increasing implications for policy. With this growth in ageing come changes in morbidity and disease patterns, including dementia. Longevity brings challenges in ensuring health equity and older people (defined as those aged over 60 where policies around affordable warmth tend to take effect) spend longer periods of time at home, become more sedentary and with increasing age and suffer greater illness and frailty. However yet we still know little about how it ‘feels’ to live in cold homes (Walker et al 2013).

The Marmot Review (2010) pointed to the need to address health inequalities. It argued for a focus on reducing the social gradient in health with actions across social determinants of health to address the proportion and level of disadvantage. Such actions are expected to bring economic, social and health benefits as well as contributing to wellbeing, sustainability and addressing climate change. A healthy standard of living and places to live for all, and ill-health prevention are key factors in achieving affordable warmth. To deliver this, there is a need for effective interprofessional working at local level with an emphasis on health equity and empowerment of individuals and local communities (Marmot et al, 2011).

A person’s home can have substantial effects on their health and for older people, cold homes and the inability to afford adequate warmth can be highly detrimental to both physical and mental health as well as quality of life (Stewart and Habgood, 2008; Stewart et al, 2013; Walker et al, 2013). There are a number of strategies and interventions addressing affordable warmth delivered by a range of organisations, including local authority housing and environmental health departments and home improvement agencies.

Currently affordable warmth in England is addressed across a range of fronts, in housing legislation (statute) and through wider government policy including the Green Deal and Energy Companies Obligation (ECO). There are also annual Winter Fuel Payments and additional cold weather payments for the over 60s. Green Deal is government supported to make energy savings to homes, identify companies to do the work and support funding options, normally starting with a Green Deal Assessment. This ideologically favours personal responsibility for households to invest in their own housing with a payback period for energy saved into the future.

ECO requires energy suppliers to help householders save on their energy bills and carbon emissions. The Home Heating Cost Reduction Obligation (HHCRO) element of ECO offers heating repairs and loft and cavity wall insulation and the EST can make HHCRO referrals to a Green Deal Provider who may be able to provide a loan based on energy savings that might be made. Uptake has generally been low possibly because

relating to the complex calculations involved and some local authorities have forged partnerships with their Green Deal Providers to support more cost effective, affordable and tailored energy packages, but this varies across the country. The Energy Savings Trust website provides a range of information and links to support available at <http://www.energysavingtrust.org.uk/Take-action/Find-a-grant/Green-Deal-and-ECO>

National Institute for Health and Care Excellence (NICE) Guidelines (NG6) (March 2015) support the development of year round action to prioritise homes, influence decisions and research to:

- Reduce preventable excess winter deaths;
- Improve health and wellbeing among vulnerable groups;
- Reduce pressure on health and social care services;
- Reduce fuel poverty and fuel debt; and
- Improve domestic energy efficiency.

The Housing Health and Safety Rating System (HHSRS) also tackles elements of affordable warmth, but based in each individual house and the risk to occupiers. It is normally enforceable by environmental health practitioners and action is mandatory where high risks are identified. The hazards of damp and mould and excess cold are amongst the most commonly occurring (DCLG, 2015) and these relate directly to affordable warmth.

For many years policy has recognised the need for appropriate home adaptations as more people 'age in place' (Centre for Ageing Better, 2016) for as long as possible; but the accommodation may become less suitable, costly to maintain and heat and less suited to meet needs as we become less mobile and more frail. There is limited evidence around the health effects of cold as we age, and at latter stages of this ageing process. Gathering evidence and data can be problematic as most affordable warmth programmes are designed and delivered locally or regionally and may not be fully evaluated. They also tend to be based on means, rather than on a lifecourse approach. Anecdotal evidence suggests that little information is collated locally around older people and affordable warmth as a specific target group with specific socio-economic and health needs around warm homes.

We use the term affordable warmth in this paper to enable a wider understanding of older people living in homes that could gain from enhanced heating and insulation, as well as ensuring that they have all benefit entitlements to which they are eligible. The current Department of Energy and Climate Change (DECC) definition of fuel poverty in England which is measured by the low income high costs definition, where a household is fuel poor if they have required fuel costs above the national median level and were they to spend that, their residual income would fall below the official poverty line. Fuel poverty is caused by the poor energy efficiency of the property, the cost of energy and household income (DECC, 2014).

## Methods

This paper draws together current policy, research, evidence and local good practice in consolidating what is known about effective interprofessional approaches that contribute to affordable warmth for older people through ‘desktop’ analysis. We analyse, critique and propose change to policy. We attempt to position current policy and strategy and show how improvements might be made through an interprofessional and shared evidence based approach. Such an approach should understand the complexity in relationships and knowledge and free up opportunities to deliver more effective affordable warmth interventions for older people. We also include some supporting empirical data from qualitative research focussed on Health and Wellbeing Boards (HWB), health inequalities and environmental health which form part of a larger project exploring how the new HWBs were addressing health inequalities, with an emphasis on environmental health. The research comprised four longitudinal case studies in the Midlands and North of England (each a HWB) followed over 18 months, starting in December 2012. Participants were recruited from professional networks and peers. Semi-structured interviews took place with HWB members and support officers, HWB meetings were observed, and documents such as strategy documents were analysed thematically. Environmental health practitioners and managers from each English region were also interviewed. In total, 50 interviews took place and 55 hours of HWB meetings were observed. Data were collated and analysed thematically inductively and deductively using qualitative analysis software Atlas ti. Ethical clearance was granted.

**Findings and Discussion**

***What do we know about affordable warmth and older people?***

Desktop analysis of key documents provided our starting point. Department of Energy and Climate Change Annual Fuel Poverty Statistics 2014 (DECC, 2014) reported that 10.4% all households were fuel poor, a reduction since 2011. This is closely correlated to poor energy efficiency in housing; there is a geographical bias and owner occupiers tend to be less fuel poor and tenants in the private rented sector more so. However, fuel poverty will rise with increases in energy costs. Almost half of fuel poor households in 2012 included someone aged over 50 (although it is most prevalent in the under 25 age group).

There are 7% of over 60s living in fuel poverty and this lower number than younger people in fuel poverty is because they are more likely to be owner occupiers than their younger counterparts. The depth of fuel poverty increases with age and the average fuel poverty gap for those over 60 was £521 (compared to £324 where the oldest member was 25-34). It is suggested that this is due to longer requirements for heating. There is no specific data beyond aged 60 when again heating requirements increase with age profile. The average fuel poverty gap by age of oldest household member for 2012 was higher for ages 60-74 and particularly pronounced for those aged 75 or older (DECC, 2014).

The Marmot Review Team Report (2011) on the health impacts of cold homes and fuel poverty identified multiple preventable health risks from fuel poverty and cold homes.

Some 405 excess winter deaths are attributable to cardio-vascular disease and 33% to respiratory disease, with a close correlation to cold housing. Mental health is negatively affected and cold housing increases minor colds and flu and aggravates existing conditions such as arthritis and rheumatism.

Fuel poverty also negatively impacts dietary opportunities and choices. In addition, it affects dexterity and increases the risk of accident and injury in the home. We also know that for older people (and other vulnerable groups) who are more sedentary as less able to generate their own heat, there are higher mortality risks as well as increased negative impact on physical and mental ill health, particularly when these effects are in combination (Marmot Review Team, 2011; Butcher, 2015; Walker et al, 2013). Related to fuel poverty, the most commonly occurring damp problem is condensation and mould and in 2013, 3% of homes were affected, which is linked to households struggling to meet fuel bills and unwillingness to ventilate. Damp problems are more prevalent in the privately rented sector (DCLG, 2014).

Fuel poverty impacts health across all life courses, not just older people, with physical and mental health effects becoming particularly acute with ageing processes. However policy and strategy do not always intervene as effectively as they might. There have been numerous and changing policy initiative to tackle fuel poverty, but no ongoing national mandatory strategy, and certainly a lack of priority for older people. This process of change may in part contribute to a historic lack of evidence around effectiveness of intervention. The current regime can be complex to understand and require a 'payback' period which is not likely to be attractive to older people. The now superseded Warm Front system appeared successful anecdotally to provide very flexible approaches from trusted local practitioners who were able to provide ongoing support and subsequent grants up to a maximum (see for example Stewart and Habgood, 2008)

### ***Effective strategies and interventions***

Effective affordable warmth strategies could have substantial cost saving implications for the NHS, social care services and quality of life implications for older people. There are a range of national policies and local strategies in place, but no mandatory requirement for affordable warmth strategies. As such, provision is erratic and it is difficult to source and collate evidence of data of what works well, and why.

The options of those delivering policy and practice at the front line can be curtailed by a narrow and technical application of law only (in this case housing legislation) and a failure to recognise the far wider picture of how cold homes affect health more holistically and in so doing, can leave many vulnerable older people with thermally substandard housing. Further development of evidence in the wider area of energy efficiency, cold homes, damp and mould and fuel poverty could help inform policy and practice to develop more effective and efficient services. However much front line work in environmental health continues to go unpublished and is therefore of lesser credibility, and is unavailable or inaccessible for the wider public health workforce in this very key area.



New arrangements in public health since 2012 include relocation of the public health medicine workforce from the NHS to local authorities, along with the establishment of Health and Wellbeing Boards (HWBs) to set the local strategic direction for health and public health. HWBs bring together Clinical Commissioning Groups, Local Authorities, patient and public representatives and others and are tasked with promoting integrated health and social care and tackling health inequalities. Integrated care has been found to be a central issue for HWBs during the early stages of their development (Dhesi, 2014).

Joint Strategic Needs Assessments (JSNA) and Joint Health and Wellbeing Strategies are developed by HWBs, and it is intended that service commissioning is then carried out in line with these agreed local priorities. There is a minimum statutory membership for HWBs, but the list does not include environmental health or housing representatives, and the research reported here revealed that these are rarely represented as professional groups. This issue is illustrated by an interview with a HWB member who queried the approach to environmental health and housing services in their area;

“... are they being built into the health and wellbeing strategy or are they being targeted and being clear enough about what is expected...probably not.” (HWB member ID21)

Another environmental health manager described their interactions with the HWB and other public health policy makers indicating that housing was the most readily understood part of their service, and had been promoted for that reason;

‘There are things that are... important here, [like] fuel poverty and, I think, people can understand the Housing issues more, it’s a bit more real to them, so that’s where we’ve been trying to push the Housing stuff.’ (EH manager ID35)

***Is evidence around affordable warmth available and helpful in informing local strategy?***

What we mean by evidence based or evidence informed practice in complex areas such as addressing fuel poverty can be confusing. It becomes particularly important at times of fiscal restraint to demonstrate proactive and upstream strategies. Even where evidence exists, it is not always readily available to those at the front line of practice. In areas such as fuel poverty evidence is particularly complex, even ‘wicked’ or ‘messy’ in its nature and it can be hard to translate into practice by already busy front line practitioners with divide loyalties in prioritising statute and discretion. There is agreement that evidence needs to be appropriate, valid, continually evaluated and accessible. We do know that there are gaps in evidence around how to intervene most effectively and the social effectiveness of strategies and interventions need shared understandings to have greater impact. (For further discussion see Dhesi and Stewart, 2015).

The lack of national fuel poverty policy and the fragmentation between statute and discretionary activities need to me be more comprehensively addressed and the wider



public health changes provide impetus and opportunity. Well established as a key public health function, fuel poverty and affordable warmth strategies should help address health inequalities at their most acute; supporting vulnerable people, notably older people, where the evidence linking cold homes to morbidity and excess winter deaths is clear.

Living in cold homes increases the risk of morbidity and mortality as well as a higher risk of home accidents, although this research has found that the issue is not always seen as a priority by public health policymakers at local levels, who are often focussing instead on integrated care and other pressing issues such as obesity, dementia, and the wellbeing of babies and children.

An ongoing problem in gaining credibility for housing interventions such as work to address affordable warmth has been a lack of research and how this could – if available – be used to inform evidence based interventions. A broader evidence base is required to support interventions and it is suggested that the anticipated health effects of housing improvements could be incorporated into strategies with an emphasis on the local relevance of the research. There is also a need to consult with stakeholders, and retrospective Health Impact Assessments could be beneficial in better informing future work (Thomson et al, 2003). We do know that retrofitting insulation works have a real cost-effective impact on health (Chapman et al, 2009). However there is surprisingly little work on affordable warmth and health, and in particular how this relates to older people.

Cold homes are one of the most significant hazards presented to practitioners and the CIEH Toolkit: Good Housing Leads to Good Health (BRE, 2008) calculates the cost to NHS of dealing with cold related illness is approximately £1 billion pa. The HHSRS cost calculator shows that dealing with excessive cold (and falls hazards) are amongst the most cost effective interventions for savings to the NHS. HHSRS has enabled some local authorities to collate data and better inform their affordable warmth strategies. The HHSRS has provided real impetus in our understanding of the cost effectiveness of interventions and how we can compare options (Davidson et al, 2010; Nicol et al, 2010). The health costs related to cold dwellings where energy efficiency is poor equates to NHS costs of £192 million, £35 million of which relate to the private rented sector although this is not broken down further by life course (BRE, 2011; see also the BRE Excess Cold Calculator at <https://www.excesscold.com/> ).

We need far more local evidence that is readily accessible and shared across interprofessional boundaries to help develop more effective affordable warmth strategies and interventions in the future. This includes professional groups working closely with policymakers such as HWB members. To illustrate, an environmental health manager described how they were successfully sharing their work on housing and inequalities with the HWB members;

“...we’d just done a [county] wide stock condition survey that had all that evidence there about fuel poverty, thermal comfort, and all the rest of it, and the second piece was around looking at the fall out of welfare reform and the inequalities on that, so they’ve accepted those two pieces of work ....” (EH manager ID35)

Combined, the lack of an evidence base linking fuel poverty strategy and successful interventions has been problematic in securing further funding although there are signs that this is changing. There seems a willingness to develop this but it is a long term investment. Notably, The Gentoo Group is starting to gain traction in agreement on links between cold homes and poor health and ‘boilers on prescription’ as an effective intervention are being successfully evaluated (Gentoo, 2015).

***Effective Interprofessional working?***

Health partnerships have generally delivered minimal outcomes (Perkins, et al. 2010). Hunter and Perkins (2012) also caution against partnerships based on structures, suggesting that good relationships are more important for success. A long-term move toward increased use of evidence in housing and health interventions has not been easy and is complicated by the range of skills and expectations across professions and how they are able to work more effectively together. Research also suggests that there is a need for more clearly defined roles, responsibilities and objectives before working together could become really effective (Stewart et al, 2006), and this appears to remain the case in places.

The emphasis on integrated care and tackling health inequalities offers an opportunity for services that can tap into these agendas. However, this sharp focus and the pressures of policies of austerity can also lead to the overlooking of preventative services which impact further ‘upstream’ and for which evaluation is more complex. Environmental health is a key example, where this research has found that some areas start to retreat to statutory functions, whereas others (less commonly) have been supported by wider public health investment.

We advocate a move towards flexible interprofessional working at local levels rather than on forcing partnership working and structures, which are unlikely to deliver as hoped. The tensions felt between different organisations and priorities were clear. For some, “housing’s fallen of the radar” (EH practitioner and policy maker ID33).

The research used in this paper suggests that there is pressure on many local authorities to fulfil statutory obligations only, in this case HHSRS excessive cold, damp and mould rather than looking more widely and sustainably at affordable warmth. The following is illustrative of what respondents were saying: “(We) only deal with the absolute top priority ones...” (EH Manager ID1)

Others were however taking a longer term, more progressive view and making more effective use of available data and the HHSRS:

“We’ve had very long debates about outcomes and outputs because these things are so difficult to measure, you know if you’re exposed to substandard housing the symptoms may not manifest themselves for 5, 10, 15 years and there’s no way you can have a sort of impact assessment or evaluation done in a short period of time, but what we are able to do is model, so... we’ve made some projections from national sources which suggested the poor housing was responsible for about 500 premature deaths in [city] every year and about 5000 hospital admissions and treatments and GP

consultations, and what we suggested was if we were able to remove x number of category 1 hazards from x number of properties we would potentially be able to reduce the number of premature deaths by 100 and GP consultations by 1000 when implemented. So ... because the HHSRS generates a score, essentially the building research establishment are able to model the cost savings to both NHS and wider society by that difference in before and after scores. So year 1 of operation I think we did about 800 HHSRS inspections removing about 700-odd cat 1 hazards and the BRE suggests that that would save the NHS £440,000 per year and that could be projected for 10 years so that's £4.4 million". (EH manager ID43).

However although there is an understanding of housing and public health links, the ways in which this is more actively implemented and evaluated is not always clear and the following quote is illustrative of what some were thinking:

"I think, probably it's easier in housing where there was a bigger national evidence base, but if the housing intervention costs a few hundred pounds, but could potentially save thousands of pounds in hospital treatment, that's where you actually do start getting people going, oh yeah, and then you can tie that back to the JSNA and go, oh yeah, well, our elderly population is going to grow enormously, so where we're looking at things like dementia, it becomes totally natural that you start looking at things, like, home improvements and stuff, like, our affordable warmth agenda and some of our advice services, it's totally normal for us to jump to those and, I think, it's about normalising what you think of as public health." (HWB board support officer ID30).

There is far more scope for good practice to be shared, adapted and adopted. One interviewee for example described a scheme in a neighbouring area, which they were planning in adopting;

"it's basically a clearing house for all [area] authorities to deal with housing and fuel poverty related issues ... [they] basically set up this GP patient record referral mechanism, but in essence what it means is that there are certain read codes on all GP systems which correspond to an injury, illness or disease, so if you've got a chest infection and that might be read code 3446 or something, we can identify on that system out of all the read codes which we feel would make a patient particularly vulnerable or susceptible to the substandard housing conditions, so what that means then potentially is that a GP consults the patient records system... then in addition to being prompted to ask the elderly patient with COPD if they've had their flu vaccination they could also be prompted to ask them about their housing conditions" (EH manager ID43).

It is clear that addressing issues around cold homes is complex and required individually tailored responses that take into account available resource regimes and accommodate the needs of occupiers. The empirical research presented forms part of a larger project on health inequalities and so provides a helpful but limited insight into housing policy and fuel poverty at local levels. More research is needed to understand more fully how policy decisions are playing out locally

## Conclusions

The challenges of ageing are numerous, complex and not fully understood and sit across multiple policy areas. The need to develop appropriate policies is greater than ever.

There are also numerous policy areas that present challenges for older people and affordable warmth in their homes. It can be highly challenging for older people, their families and carers to find out about how to access funding regimes. In addition, we have little published evidence around effective interprofessional working in areas such as hospital discharge. Where an older person has been hospitalised as a result of health effects from living in a cold home, they may risk being returned to a non-improved environment with subsequent readmission into hospital. Our empirical evidence has shown that interprofessional schemes are being developed and these need evaluation and, where good practice exists, sharing.

We primarily need more evidence of health effects of cold homes as we continue to age and additional heating in case for example of illness or dementia. We need more focus on older people, particularly those with lower incomes in older housing stock which is more likely to have poor thermal qualities. We also need more information about the contribution of cold homes to home accidents and how effective investment in affordable warmth can have multiple benefits in both health and safety.

A period of stability and investment around key fuel poverty policy areas would help provide impetus to encourage published studies evaluating what works well and why. A developmental forum accessible to the range of professions involved for disseminating and sharing this information would be helpful.

Finally, we need to move away from the ‘artificial divides’ around statutory and non statutory duties toward a more sustainable programme of affordable warmth for all older people. To do this, effective, evidence based interprofessional working is essential.

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### Declaration of interest

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